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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,913	12/06/2005	Giora Amitzur	30028	6778
7590 Martin Moynihan Anthony Castorina Suite 207 2001 Jefferson Davis Highway Arlington, VA 22202			EXAMINER BAXTER, ZOE E	
			ART UNIT 3735	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/06/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/537,913

Applicant(s)

AMITZUR ET AL.

Examiner

Zoe E. Baxter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7/24/06.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-55 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Claims must provide a useful, concrete and tangible result, where the utility is specific, substantial and credible. Claims 1-55 of the application do not provide a tangible result therefor they lack utility. It is suggested that in order for the results to be tangible they must be displayed on a physical medium.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by Schnall et al.

(US Patent No. 6939304).

6. Referring to claim 1 Schnall et al. teach a method of determining endothelial dependent vasoactivity of a subject (column 3 lines 35-37), the method comprising: recording pressure-related signals of a plurality of locations adjacent to at least one blood vessel (column 3 lines 42-45), the arterial tone being a pressure-related signal; extracting at least one parameter from said pressure-related signals (column 3 lines 48-56), the arterial pulsatile flow; and using said at least one parameter to determine a change of at least one characteristic of said at least one blood vessel, said change being representative of endothelial functioning; thereby determining the endothelial dependent vasoactivity of the subject (column 3 lines 45-47).

7. Referring to claim 3 Schnall et al. teach a method of determining endothelial dependent vasoactivity, comprising stimulating said at least one blood vessel (column 3 lines 35-39) by applying an occluding pressure to the arm or leg this is stimulating at least one blood vessel.

8. Referring to claim 4 Schnall et al. teach a method of determining endothelial dependent vasoactivity, wherein said stimulating of said at least one blood vessel is effected by a procedure of a mechanical stimulation an external pressure is a mechanical stimulation (column 3 lines 35-39).

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9. Referring to claim 5 Schnall et al. teach a method of determining endothelial dependent vasoactivity, wherein said stimulating of said at least one blood vessel is by applying external pressure on said at least one blood vessel (column 3 lines 35-39).

10. Referring to claim 7 Schnall et al. teach a method, wherein said blood vessel is the brachial artery (column 8 lines 41-64).

11. Referring to claim 19 Schnall et al. teach a method of determining endothelial dependent vasoactivity comprising a measurement of the amplitude of the pressure-related signals (column 7 lines 34-43).

12. Referring to claim 26 Schnall et al. teach a system for determining endothelial dependent vasoactivity of a subject, the system comprising: an arrangement of sensors for recording pressure-related signals of a plurality of locations adjacent to at least one blood vessel (column 6 lines 30-42); a processing unit operable to receive, record and process said pressure-related signals (column 6 lines 50-55); said processing unit being designed and programmed to extract at least one parameter from said pressure-related signals, and to use said at least one parameter to determine a change of at least one characteristic of said at least one blood vessel, said change being representative of endothelial functioning (column 6 lines 50-55).

13. Referring to claim 27 Schnall et al. teach a system, comprising electronic-calculation functionality for determining an autonomic nervous system activity of the subject (column 6 lines 50-55).

14. Referring to claim 28 Schnall et al. teach a system, further comprising a mechanism for stimulating said at least one blood vessel (column 6 lines 56-64).

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15. Referring to claim 29 Schnall et al. teach a system, wherein said mechanism for stimulating said at least one blood vessel a mechanical mechanism, providing pressure to occlude a blood vessel (column 6 lines 56-64).

16. Referring to claim 30 Schnall et al. teach a system, wherein said mechanism is operable to apply external pressure on said at least one blood vessel (column 6 lines 56-64).

17. Referring to claim 34 Schnall et al. teach a system, wherein the selected blood vessel is the brachial artery (column 8 lines 41-64).

18. Referring to claim 43 Schnall et al. a system for determining endothelial dependent vasoactivity of a subject, wherein one parameter measured is an amplitude of said pressure-related signals (column 7 lines 34-43).

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnall et al. in view of Nasiff (US Patent No. 5111826). Schnall teach a method of determining endothelial dependent vasoactivity of a subject (column 3 lines 35-37), the method comprising: recording pressure-related signals of a plurality of locations adjacent to at least one blood vessel (column 3 lines 42-45), the arterial tone being a pressure-related

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signal; extracting at least one parameter from said pressure-related signals (column 3 lines 48-56), the arterial pulsatile flow; and using said at least one parameter to determine a change of at least one characteristic of said at least one blood vessel, said change being representative of endothelial functioning; thereby determining the endothelial dependent vasoactivity of the subject (column 3 lines 45-47). Schnall et al. fail to teach a method wherein recording pressure-related signals is by piezoelectric ceramic elements. Nasiff teaches a piezoelectric ceramic element for measuring pressure-related signals (column 1 lines 11-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Schnall to include a piezoelectric pressure transducer similar to that of Nasiff in order to provide an indirect measurement of blood pressure (Nasiff, column 1 lines 11-15).

21. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnall et al. as applied to claim 1 and further in view of Robillard (US Patent No. 3623476). Schnall teach a method of determining endothelial dependent vasoactivity of a subject (column 3 lines 35-37), the method comprising: recording pressure-related signals of a plurality of locations adjacent to at least one blood vessel (column 3 lines 42-45), the arterial tone being a pressure-related signal; extracting at least one parameter from said pressure-related signals (column 3 lines 48-56), the arterial pulsatile flow; and using said at least one parameter to determine a change of at least one characteristic of said at least one blood vessel, said change being representative of endothelial functioning; thereby determining the endothelial dependent vasoactivity of the subject (column 3 lines 45-47). Schnall et al. fail to teach a method wherein recording pressure-related signals is by a membrane-based sensor. Rodillard teach a method of recording

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pressure-related signals is by a membrane-based sensor (column 3 lines 36-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Schnall to include a membrane-based sensor similar to that of Rodillard in order to provide an accurate and convenient (Rodillard, column 3 lines 54-59).

22. Referring to claim 17 Schnall et al. fail to teach a method of determining endothelial dependent vasoactivity of a subject wherein the membrane-based sensor is an electrate microphone. Rodillard teaches an electrate microphone (column 3 lines 36-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Schnall to include a membrane-based sensor similar to that of Rodillard in order to provide an accurate and convenient (Rodillard, column 3 lines 54-59).

23. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnall et al. in view of Nasiff (US Patent No. 5111826). Schnall teach a system for determining endothelial dependent vasoactivity of a subject, the system comprising: an arrangement of sensors for recording pressure-related signals of a plurality of locations adjacent to at least one blood vessel (column 6 lines 30-42); a processing unit operable to receive, record and process said pressure-related signals (column 6 lines 50-55); said processing unit being designed and programmed to extract at least one parameter from said pressure-related signals, and to use said at least one parameter to determine a change of at least one characteristic of said at least one blood vessel, said change being representative of endothelial functioning (column 6 lines 50-55). Schnall et al. fail to teach a system wherein said sensors are piezoelectric ceramic elements. Nasiff

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teaches a piezoelectric ceramic element for measuring pressure-related signals (column 1 lines 11-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Schnall to include a piezoelectric pressure transducer similar to that of Nasiff in order to provide an indirect measurement of blood pressure (Nasiff, column 1 lines 11-15).

24. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnall et al. as applied to claim 1 and further in view of Robillard (US Patent No. 3623476). Schnall et al. teach a system for determining endothelial dependent vasoactivity of a subject, the system comprising: an arrangement of sensors for recording pressure-related signals of a plurality of locations adjacent to at least one blood vessel (column 6 lines 30-42); a processing unit operable to receive, record and process said pressure-related signals (column 6 lines 50-55); said processing unit being designed and programmed to extract at least one parameter from said pressure-related signals, and to use said at least one parameter to determine a change of at least one characteristic of said at least one blood vessel, said change being representative of endothelial functioning (column 6 lines 50-55). Schnall et al. fail to teach a system wherein said sensors are membrane-based sensors. Rodillard teach a method of recording pressure-related signals is by a membrane-based sensor (column 3 lines 36-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Schnall to include a membrane-based sensor similar to that of Rodillard in order to provide an accurate and convenient (Rodillard, column 3 lines 54-59).

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25. Referring to claim 40 Schnall et al. fail to teach a system for determining endothelial dependent vasoactivity of a subject wherein the membrane-based sensor is an electrate microphone. Rodillard teaches an electrate microphone (column 3 lines 36-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Schnall to include a membrane-based sensor similar to that of Rodillard in order to provide an accurate and convenient (Rodillard, column 3 lines 54-59).

### ***Conclusion***

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zoe E. Baxter whose telephone number is 571-272-8964. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles A. Marmor, II  
Supervisory Patent Examiner  
Art Unit 3735

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